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EXAMINER	
BANH, DAVID H	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,299	BUECHNER, DETLEF ALFONS	
	Examiner	Art Unit	
	DAVID BANH	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 1, 4 and 24 are objected to because of the following informalities: For claim 1, the recitation "the circuit is configured to be parameterized" is objected to because it is not believed that a circuit can be parameterized. In light of the Specification, it is believed that the applicant intends the recitation "the circuit is configured to be parameterized" to mean that the circuit is configured to generate a parameterized signal. Likewise for claim 4, the recitation "is adjustable with regard to additional parameters" appears to mean that the signal generated by the circuit is parameterized by the additional parameters. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-15, 17-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agne (US Patent 6,456,222) in view of Okada (US PG Pub 2003/0099176).

Agne teaches a drive device comprising at least two virtual axles (see Fig. 1, the two lines connecting sensor **G1** to motor **M1**) configured to preset the desired angular position of a drive (column 3, lines 1-10, the sensor detects the position of the motor and sends the position to a drive regulator, which can control the drive position) driven by a separate motor (in column 2, lines 34-40, the invention is disclosed as "a drive comprising at least one motor **M1 to M5**", although we may treat only the motors **M1 to M4** and associated components as the drive; thus there is a drive comprising a plurality of separate motors, see Fig. 1), the drive being the drive for a unit which may be a printing press (column 1, lines 5-10, the invention relates to signal conversion for machine tools and production units; a printing press is a production unit, and is further not positively recited), wherein the at least two virtual leading axles are connected to a circuit **GU1, GU2** (column 3, lines 4-8, also associated connectors are considered part of the circuit) which is configured to convert the data for the angular position of a leading axle position into a pulse train in the form of output signals (convert actual position of motor **M1** into sensor compatible pulsed signals). Agne teaches the circuit being assigned to at least one of the virtual leading axles (since it converts the data about the position of the motor, into pulsed signals). Agne does not teach that the circuit is configured to be parameterized with regard to a number of pulses per rotation. However, Okada teaches a position detector **11** for a motor **2** that outputs a frequency

signal that is in proportion to rotation speed (see paragraph 330). This means that the signal is parameterized with respect to the number of pulses per rotation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the outputted signal parameterized with regard to a number of pulses per rotation, so that other devices can interpret the parameterized signal and so that a human observer can roughly determine the position and speed of the motor by the signal alone.

For claim 2: The combination of Agne and Okada teaches the drive device of claim 1 wherein further the pulse train (generated by **GU2**) is supplied to a drive **M5** of a subassembly **M5, LE5, AR5** (see Fig. 1).

For claim 3: The combination of Agne and Okada teaches the drive device of claim 1 wherein the circuit comprises a number of subcircuits that are able to generate a number of pulse trains at a number of outputs (**GU1** with **AB4** and **GU2** with the line to **AR5** being for example, a number of subcircuits generating pulse trains at a number of outputs).

For claim 4: The combination of Agne and Okada teaches the drive device of claim 3 wherein the circuit or subcircuit is adjustable with regard to additional parameters that relate to the shape of the output signal (in Okada, Fig. 27A, and paragraph 330, it is seen that the circuit is parameterized with respect to the $n/2\pi$ and Fig. 27A sows the shape of the output signal, which is as such because the signal is based on a number of pulses per rotation).

For claim 5: The combination of Agne and Okada teaches the drive device of claim 3 wherein the circuit is an emulator circuit (see Agne, column 3, lines 10-25, the

circuit is used to connect drives from different manufacturers together and the system is used to bridge the drive bus interfaces).

For claim 6: The combination of Agne and Okada teaches the drive device of claim 3 wherein the input of the circuit receives the leading axle position from a drive control unit **G2** (the circuit comprising **GU1, GU2** and other connected wirings gets input from **G2** in addition to **G1** and **G2** is used to control the position of the drive).

For claim 7: The combination of Agne and Okada teaches the drive device of claim 1 wherein the circuit **GU1, GU2** is connected as a client to a network (the system comprising **GU1, GU2** and additional wires **AB1-AB4** and **AR1-AR5** and computer **L**), the circuit conveys the leading axle position (**GU2** to **AR5**) and receives its angular position at its input (from **G1, G2**).

For claim 8: The combination of Agne and Okada teaches the drive device of claim 1, wherein a drive control unit **G2** is provided, the drive control unit comprising a circuit (see Fig. 1, where the unit **G2** is connected to **AR1** and so forth), the control unit presetting the leading axle position (since the leading virtual axle is basically the position at which the sensor measures the motor, the unit **G2** sets this position up as it picks a position at which to sense the motor).

For claim 9: The combination of Agne and Okada teaches the drive device of claim 1 wherein at least first and second circuits **GU1, GU2** are provided for converting the datum into a pulse train of output signals (see paragraph 330 as the signal converters change the data into a pulse train).

For claim 10: The combination of Agne and Okada teaches the drive device of claim 9 wherein a drive control unit **G2** that presets the leading axle position has a first circuit **GU1** which converts the changing data of the axle position into a pulse train with a fixed definite number of pulses per rotation (in Agne, the drive control unit **G2** detects the position of the motor which it sends to regulators **AR1** that control the position, while an associated circuit **GU1** converts the data into a signal pulse, the signal pulse can be made dependent on a number of pulses per rotation as discussed in the combination with Okada in claim 1).

For claim 11: The combination of Agne and Okada teaches the drive device of claim 10 wherein the output of the first circuit **GU1** communicates with the input of a second circuit **GU2** which converts the first pulse train into a new pulse shaped output signal (in Agne, **GU2** outputs a pulse signal, and **GU1** through **AB4** and **AR4** communicates as an input to **GU2**). As taught by the combination above by Okada, the signal is shaped in conjunction with a parameter based on a number of pulses per rotation and this parameterization clearly affects the shape of the output signal (the signal parameterized by a number of pulses per rotation appears like the signal of Figure 27A).

For claim 12: The combination of Agne and Okada teaches all of the limitations of claim 12 except that a plurality of subcircuits is provided on the second circuit, which are able to generate a number of pulse trains in the form of output signals. However, MPEP Section 2144.04 Section VI Part B recites a holding that the mere duplication of parts holds no patentable significance unless a new an unexpected result is produced.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide multiple subcircuits to produce multiple pulse trains as output signals for the purpose being able to supply these signals to a plurality of other appliances in the machine tool or production machine in real time (see column 1, lines 35-40 of Agne, a plurality of other appliances to which signal pulses are sent is disclosed).

For claim 13: The combination of Agne and Okada teaches the drive device of claim 11 wherein the parameters are adjustable (Okada teaches that the signal output may be one pulse per rotation or multiple, see Figs. 21A and 27A, in 21A, there are two per rotation and in Fig. 27A there is only one per rotation, see also paragraphs 557 and 620).

For claim 14: The combination of Agne and Okada teaches the drive device of claim 1 wherein it is possible to parameterize the output signal with regard to a number of pulse per rotation (see paragraph 330, Fig. 27A of Okada; the circuit **GU2** of Agne converts the signal into pulses which can be parameterized with respect to a number of pulses per rotation).

For claim 15: The combination of Agne and Okada teaches the drive device of claim 1 wherein it is possible to parameterize the output signal with regard to a number of pulse per rotation of a subassembly (if we interpret the motor **M1** of Agne to be a subassembly of the entire drive, the number of pulses is already parameterized with respect to the rotation of the subassembly).

For claim 17: The combination of Agne and Okada teaches the drive device of claim 1 wherein the pulse train is in the form of a digital output signal (see Okada, paragraph 22, wherein the electronic circuits produce signals for pickup by a digital processor).

For claim 18: The combination of Agne and Okada teaches the drive device of claim 1 wherein the pulse train is in the form of an analog output signal (see Okada, paragraph 22, wherein the electronic circuits produce signals for pickup by an analog processor).

For claim 19: The combination of Agne and Okada teaches the drive device of claim 1 wherein the output signal at the output has a set of correlated pulse trains (in Agne, the outputs of **GU1** and **GU2** have a set of pulse trains that are related).

For claim 20: The combination of Agne and Okada teaches the drive device of claim 1 wherein the circuit is detachably connected to a computing unit **L** in order to adjust the parameters (the circuit and device itself is shown as connected to a computing unit **L**, which would be capable of controlling the circuit, see Fig. 1).

For claim 21: The combination of Agne and Okada teaches the drive device of claim 1 wherein the axle position is preset by a drive control unit **G2** (the drive control unit **G2** is a sensor that detects the position of the drive **M1** and sends it to a regulator **AR1** to set it).

For claim 22: The combination of Agne and Okada teaches the drive device of claim 10 wherein the drive device is an independent master for the drive **M1** that are

coupled to at least two virtual leading axles (the two lines between **M1** and **G1**, the drive control **G2** is an independent sensor that works to control the position of the drive).

For claim 24: Agne teache a method of controlling a subassembly of a printing press by having at least two virtual axles (see Fig. 1, the two lines connecting sensor **G1** to motor **M1**) wherein each axle is configured to preset the desired angular position of a drive (column 3, lines 1-10, the sensor detects the position of the motor and sends the position to a drive regulator, which can control the drive position) driven by a separate motor (in column 2, lines 34-40, the invention is disclosed as "a drive comprising at least one motor **M1 to M5**", although we may treat only the motors **M1 to M4** and associated components as the drive; thus there is a drive comprising a plurality of separate motors, see Fig. 1), the drive being the drive for a unit which may be a printing press (column 1, lines 5-10, the invention relates to signal conversion for machine tools and production units; a printing press is a production unit, and is further not positively recited), wherein the at least two virtual leading axles are connected to a circuit **GU1, GU2** (column 3, lines 4-8, also associated connectors are considered part of the circuit) which is configured to convert the data for the angular position of a leading axle position into a pulse train in the form of output signals (convert actual position of motor **M1** into sensor compatible pulsed signals). Agne teaches the circuit being assigned to at least one of the virtual leading axles (since it converts the data about the position of the motor, into pulsed signals). Agne teaches supplying the output signals to a subassembly (**GU2** to **M5**). Agne does not teach that the incremental resolution of the leading axle or the position of the subassembly is controlled via a circuit of a drive motor

by parameterizing the circuit with regard to a number of pulses per rotation. However, Okada teaches a position detector **11** for a motor **2** that outputs a frequency signal that is in proportion to rotation speed (see paragraph 330). This means that the signal is parameterized with respect to the number of pulses per rotation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the outputted signal parameterized with regard to a number of pulses per rotation, so that other devices can interpret the parameterized signal and so that a human observer can roughly determine the position and speed of the motor by the signal alone.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agne (US Patent 6,456,222) and Okada (US PG Pub 2003/0099176) as applied to claim 4 above, and further in view of Frank et al. (US Patent 6,736,062).

The combination of Agne and Okada teaches all of the limitations of claim 16 except that the output signal is parameterized with respect to a height of its amplitude. However, Frank et al. teaches the output signal is determined by a pair of encoders and is given by the amplitude of the signals (column 3, lines 5-10 and 40-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to parameterize the signal with respect to its amplitude to determine the position of the axles in order to determine a change in the position instantaneously with a change in the amplitude.

6. Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over over Agne (US Patent 6,456,222) and Okada (US PG Pub 2003/0099176) as applied to claim 10 above, and further in view of Tokiwa (US PG Pub 2003/0041766).

The combination of Agne and Okada teaches all of the limitations of claim 23 except that the control is a preset of a dirve control unit of a folding unit. However, Tokiwa teaches a driving means with position encoders for the drive that output the signal as a pulse (paragraph 53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the drive device taught by the combination of Agne and Okada as a position detector of a folding unit for the purpose of being able to more precisely control the position of the folding unit to impart neater folds and to reset the folding position in the case of an irregularity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID BANH whose telephone number is (571)270-3851. The examiner can normally be reached on M-Th 9:30AM-8PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DHB

/Judy Nguyen/
Supervisory Patent Examiner, Art Unit 2854